



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

1/10/05

SUBJECT: FAP Route 317
Section D4 Joint Repair 2005
Peoria County
Item No. 54, 1/21/05 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised page i or the Table of Contents to the Special Provisions.
2. Added pages 47-49 to the Special Provisions.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Very truly yours,

Michael L. Hine
Engineer of Design
and Environment

A handwritten signature in cursive script, reading "Ted B. Walschleger P.E." with a small "P.E." to the right.

By: Ted B. Walschleger, P. E.
Engineer of Project Management

cc: J. Crowe; Roger Driskell
; Jim White; Design & Environment File

MS/sar

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STRIP SEAL EXPANSION JOINT ASSEMBLY 47

Revised 1/10/2005

STRIP SEAL EXPANSION JOINT ASSEMBLY

Effective: July 7, 2004

Description. This work shall consist of furnishing and installing an expansion joint assembly as shown on the plans and as specified herein. The joint assembly shall be comprised of steel locking edge rails with studs and a preformed elastomeric strip seal.

Materials:

- (a) Steel Locking Edge Rails for the Preformed Elastomeric Strip Seal System. The steel locking edge rails shall be either a one-piece extrusion (rolled section) or a combination of extruded and stock plate, shop welded according to Section 505. All steel shall be AASHTO M270, Grade 250 (Grade 36) minimum. The locking portion of the steel edge rail shall be extruded, with a cavity, properly shaped to allow the insertion of the strip seal gland and the development of a watertight mechanical interlock. This cavity shall also be formed or machined with allowance made for the required galvanizing process. The top edge of the steel edge rails shall not contain any horizontal projections.
- (b) Anchor Studs. The steel locking edge rails shall contain anchor studs and/or anchor plates of the size shown on the plans for the purpose of firmly anchoring the expansion joint system in either portland cement concrete or polymer concrete, depending on the application. The anchor studs shall be according to Article 1006.32 and shall be installed in the shop prior to galvanizing.
- (c) Preformed Elastomeric Strip Seal. The elastomeric gland shall meet the physical requirements of ASTM D5973. The gland material shall have a shallow "v" profile and shall contain "locking ears" that, when inserted in the steel locking edge rails, forms a mechanical interlock. The elastomeric gland shall be of an appropriate size to accommodate the rated movement specified on the plans.
- (d) Adhesive/Lubricant. The adhesive/lubricant shall comply with the requirements of ASTM D4070.

Shop Drawings:

The Contractor must submit shop drawings in accordance with the provisions of 105.04 of the Standard Specifications for all expansion joint devices. No materials detailed in the Plans and/or as described in this Special Provision, or covered by shop drawings, may be delivered to the site of the work until the shop drawings have been approved.

Construction:

- (a) Steel locking edge rails. After fabrication the steel locking edge rails shall be hot dip galvanized according to AASHTO M111 and ASTM A385. The steel components of the joint system shall be properly aligned and set prior to pouring the anchorage material. For expansion joints, the joint opening shall be adjusted according to the temperature at the time of placing so that the specified opening will be secured at a temperature of 10°C (50°F).

Added 1/10/2005

The joint opening for each 10 m (100 ft.) of bridge between the nearest fixed bearings each way from the joint shall be reduced 1 mm (1/8 in.) from the amount specified, for each 8°C (15°F) the temperature at the time of placing exceeds 10°C (50°F) and increased 1 mm (1/8 in.) from the amount specified, for each 8°C (15°F) the temperature at the time of placing is below 10°C (50°F).

- (b) **Preformed Elastomeric Strip Seal.** Once the anchoring material has fully cured according to specifications, preparation for the placement of the gland can begin.
- (1) **Surface Preparation.** The cavity portion of the locking edge rails must be cleaned of all foreign material prior to placement of the strip seal. The cavity shall be cleaned of debris using compressed air with a minimum pressure of 620 kPa (90 psi). The air compressor shall be equipped with traps to prevent the inclusion of water and/or oil in the air line. Any oil left on the surface of the steel extrusion at this stage shall be removed using a solvent recommended by the strip seal manufacturer. Once the surface preparation has been completed, the steel extrusion cavities must be kept clean and dry until the strip seal is placed.
- (2) **Placement of Elastomeric Strip Seal.** The placement of the strip seal will only be permitted when the steel locking edge rail cavities are in a clean and dry state and the ambient air and steel substrate temperature are above the minimum temperature recommended by the strip seal manufacturer. Prior to inserting the strip seal in the steel retainer cavities, the "locking ears" portion of the seal shall be coated with the approved adhesive/lubricant. Only about 1.5 m (5 ft) of gland should be coated at a time to prevent the lubricant/adhesive from drying prior to insertion into the cavities of the steel locking edge rails. After each section is coated, the coated portion of the seal should be inserted in the steel locking edge rail cavities using tools and procedures recommended by the strip seal manufacturer. Under no circumstances shall any uncoated "locking ears" be permitted in the joint.
- (c) **End Treatment.** The end treatment for curbs, parapets and sidewalks must be as detailed on the plans and as recommended by the manufacturer of the joint system. The Contractor must field measure the exact length from toe to toe of curbs, parapets or sidewalks along the joint to ensure proper dimensioning of any required shop fabricated miters. The elastomeric strip seal shall be one continuous piece along the entire length of the joint. The seal should physically be able to navigate the 30° upturn at the parapets as well as some degree of horizontal bridge skew in one continuous piece. If bridge skew angles exceed the physical ability of the strip seal to navigate the change in angle as set forth by the manufacturer's specifications and recommendations, then the seal may be spliced at the mitered ends by factory molding or shop vulcanization by the manufacturer. In addition, this factory-spliced seal shall then be verified to fit properly with its corresponding steel locking edge rail assembly prior to delivery. Under no circumstances shall the strip seal be field "vulcanized", glued, or joined in any manner other than by the manufacturer's approved factory process.
- (d) **Technical Support.** The manufacturer shall supply technical support during surface preparation and the installation of the entire joint assembly.

Added 1/10/2005

Method of Measurement. The completed joint assembly will be measured in meters (feet) along the centerline of the joint.

Basis of Payment. The expansion joint assembly, measured as specified, will be paid for at the contract unit price per meter (foot) for STRIP SEAL EXPANSION JOINT ASSEMBLY, regardless of the design movement specified. This price shall be payment in full for all labor, materials, equipment, and manufacturer's technical support required for surface preparation and joint installation.

Added 1/10/2005